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THE EARLY SYMPTOMS AND TREATMENT OF INSANITY.

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[Read before the Bristol North District Medical Society.]

In regard to the symptoms of insanity, the statements I shall make must be understood to be general, and not without frequent exceptions.

The man afflicted with bodily disease feels that he is sick and anxiously seeks the counsel of his physician; the man whose mind is becoming disordered either does not consult you at all, or, if he does, it is for some fancied ill far enough from his real trouble. The chances are that you are first called in by his friends, they having noticed something strange about him, while he assures you that he is not sick and has no occasion for your services; perhaps they have put a child to bed, with a cold in his head, for you to ostensibly prescribe for, while you are expected quietly to observe the suspected party and tell them what ails him. In nine cases out of ten there will be marks of disorder about his clothing or person in some way, for, as a rule, the insane show untidiness of dress; the passage of scripture, "clothed and in his right mind" is pertinent here. In the early stages of the disease the insane are often uneasy, in a constant motion, getting up, walking about the room, busy with nothing. Set about a piece of work, they do not finish it. Later in the disease, they will sit for hours in the same position; sometimes this is so from the commencement, not usually. The expression of the countenance is of importance in determining insanity. We hear a great deal about the eye of an insane person; well, there is something in it; it is apt to be an unquiet eye, sometimes dull, often with an anxious look. I notice they do not generally take well in a photograph. On the other hand, I must say that I have seen insane persons whose eyes you would have to look at a great while before you saw the insanity in them. Depression, as shown in the whole manner as well as in the countenance, is seen in the early stage of insanity, in a majority of cases; indeed, Dr. Saukey goes so far as to claim that no attack of insanity occurs primarily without an incubating stage of

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depression. I doubt the truth of this, but it is certainly a very common condition. The countenance is markedly changed in other respects. There is something blasting in insanity that withers up the freshness of life, making the young look prematurely old. Walk through the wards of our hospitals and see how few of the women have any traces of beauty. I have sometimes wondered, looking on faces whose ugliness made them repulsive, if they were ever anything but hideous; then, when I have seen the reason come back, the angular features round into a smile, the soft light gather again in the eye, the countenance grow radiant with intelligence and "clothed upon" with a beauty from within, I have realized how to the mind all things were possible, even to the fulfilment of the prophetic promise that "beauty shall spring up out of ashes, and life out of the dust."

Sometimes, when you are speaking with your patient, you will observe that he is looking aside in an abstracted way, or has ceased to notice what you are saying, but is plainly occupied with something. The question, "Do you hear them?" will then often bring the quick answer, "Yes, and so do you," and you learn that he has been listening to a voice, a voice far more persuasive than yours, for singularly enough they will disbelieve and controvert what you say, but the hidden voice, that speaks only to them, they trust most implicitly, apparently without power against it; like the wedding guest in Coleridge's Ancient Mariner, "He cannot choose but hear." I have at present under my care a man who says he is troubled with "an undertone;" in obedience to this he makes assaults upon others, and, from the violence of his demonstrations at times, you would conclude that the voice spoke to him in anything but undertone. Hallucinations of hearing are not very uncommon in insanity and must be regarded as an unfavorable symptom. Hallucinations of sight are, in my experience, much rarer in insanity than in delirium. They are a prominent symptom in mania-a-potu, and they seem to me somewhat common in the early stages of puerperal mania.

Sleep, the "balm of hurt minds," as Shakespeare calls it, is often deficient, sometimes wholly wanting in the early stages of insanity. Indeed, prolonged loss of sleep without apparent cause is in itself a sufficient ground for grave apprehensions respecting the mental condition of the individual thus affected. It occurs in a great majority of the cases of insanity, and it is surprising how long they will sometimes survive apparently without sleep, and yet in the end recover. The return of sleep is often the commencement of convalescence.

The digestion is impaired in the early stages of insanity; the patient often neglects taking food or takes it at irregular intervals, sometimes refuses it altogether. The taste is rarely fastidious, more frequently it is wanting, and food is taken without reference to its character or quality. A ravenous appetite in insanity generally indicates a degree of dementia, and is so far an unfavorable symptom. A pasty tongue, bad breath and constipated bowels are common in all stages of insanity.

We are sometimes consulted in a case where the moral sentiment alone seems to be at fault. A not very uncommon form of this is seen in young persons recovering from typhoid fever; friends remark that they are somehow changed; perhaps they will be peevish and irascible, though previously amiable and mild, or they will be found to make use of language that is profane or vulgar, or they show a propensity to pilfer without much reference to the value of the article taken, though formerly most correct in all these respects. In the female, a queer mental condition of this kind sometimes depends upon a disordered menstruation and may be cured, but in males you will generally detect some symptoms of weakness of mind accompanying, and your prognosis, as regards cure, will be unfavorable. There is probably some organic change of the brain or meninges. There is a vice to which the friends of the patient give the popular name of "hard study." You will be consulted in regard to a young person whose failing health and strange conduct have attracted attention. You find a shy, generally shame-faced boy, disinclined to do anything, with hands cold, pasty and blue from sluggish capillary circulation; the pupils of the eye are large, and there are general symptoms of nervous prostration; there is apt to be a moody, unpleasant expression of countenance. As regards close application to study, it usually consists in shutting themselves up alone and being little in society, their standing as scholars being something below mediocrity, and they are often in dementia when you are first called. It is somewhat rarer in girls, but you meet it every now and then. They differ in being very emotional and nervous, complaining of all sorts of aches and pains; they seclude themselves very closely, sometimes are bed-ridden with supposed womb difficulties. Strangely enough the manifestation of a deep religious feeling is not incompatible with this vice. Their devotion perhaps follows too literally the injunction to "enter into the closet and shut to the door."

In regard to another kind of case, you will hardly fail now and then to be consulted where it is very desirable to make a correct diagnosis. A man in the prime of life, or having hardly reached it, very well, active in some business, often very successful, or perhaps somewhat embarrassed, but ambitious, a driving, energetic man, working hard and living well, a good man for a chicken salad or a late supper, yes, a little fast, but not an inebriate. What will strike you, at first sight, will be his activity, his volubility and his self-sufficient and satisfied air. If his business has been embarrassed it is all right now. You will find he has made some very wild financial transactions, or if not, is all ready to do so. He has the most brilliant schemes and no misgivings as to their success; his bank balance is inexhaustible; he can give you a check for a million without the slightest inconvenience. He unfolds his magnificent plans before you, and while he is talking rapidly and earnestly his speech staggers over some word for a moment and then goes on as glibly as ever;

presently you mark it again, not a stammer, a little hesitation as of a person slightly intoxicated, that is all, but it is enough. To other eyes he may seem full of life, the picture of health, crowding work for a lifetime into a day, standing at the culminating point of a successful career. You see a man whose work is done, who will probably be dead within a year, and for whose recovery there is not a particle of hope. Paresis, or general paralysis as it is more commonly but less correctly called, in its brief but splendid stage of grandeur, seems the very inflorescence of insanity, and it is touchingly painful to those who watch its daily progress, to see how soon "the flower thereof fadeth and vanisheth away."

A word now of the early treatment of insanity. In the active forms of insanity two important points in treatment are to keep up the strength and to secure sleep. The first is best done by nourishment. Bark and iron may be indicated as tonics, but they are not food. The importance of food seems to be recognized, theoretically at least, by all physicians; at the same time patients are constantly being brought to the hospital who have eaten but little for weeks, who perhaps have absolutely refused all food for several days, and their haggard look and peculiar, characteristic breath show that they are actually starving. While realizing how great an advantage it is to have the patient take food voluntarily, and using every endeavor to have them, I am satisfied that in many cases an early resort to the feeding tube is the humane and the only justifiable course to pursue. There is no doubt but it might be used to advantage much oftener than it is, outside of hospitals. I think no year passes that I do not see lives saved by its use. Perhaps it is not generally understood how long life may be prolonged with nourishment taken only in this way; one, two and three months are common cases; eight and nine months are both within my experience, and the longer term resulted in recovery from the insanity. Without organic disease of the digestive organs there is no excuse for letting a person starve to death.

The second indication, to secure sleep, is sometimes best met by supplying food. A full meal is often a better sleep-compeller than an opiate. Milk, egg and brandy, with a little nutmeg and sugar, is very palatable and anodyne in its action. Food may, however, be well and readily taken and yet the sleep be wanting. When you have to give some drug as a hypnotic, what shall it be? The fashion changes here as everywhere else in medicine. Thirteen years ago, when I first began my acquaintance with the insane, half a grain of the sulphate of morphia, with two drachms of fluid extract of conium three times a day, was the standard prescription for active mania. Then we bought morphine by the ounce, going often to the druggist; now I buy a drachm and it lasts a wonderful while. The insane bear opium just as well now as they did then, but I do not. Still, there are some cases where there is nothing like it. To-day, chloral hydrate is the favorite reliance; we like it and hope that this anchor will

hold. In doses of twenty to thirty grains at bedtime it often seems to work very satisfactorily, and is probably not more dangerous than any other equally powerful remedy. It will bear to be repeated, but not indefinitely. Where it fails to produce any effect in the ordinary full dose it is best to try something else. Bromide of potassium deserves its high reputation, but it is less a hypnotic than chloral. Ether by inhalation, in cases of prolonged wakefulness with high excitement, often has a most happy effect; as often the effect does not last beyond the administration of the remedy. The conclusion to which I come is that in mania all drugs are uncertain in their effect; that food, restraint in rooms, with confinement to the bed if necessary, are more important than medicine. Especially is it desirable not to overdrug the patient. The enormous quantities of opium that the insane will bear offers a temptation in that direction, but it will disappoint you, and when your patient is full of opium and chloral and ether and hyoscyamus, &c. &c., there is neither room nor appetite for any food. When such cases are brought to the hospital we generally stop everything and go back to first principles—milk, with perhaps a little lime water.

The treatment outside of drugs, of mind treated by mind, of travel, of change of surroundings, of occupation, all these questions you, as physicians, will be called upon to decide, and each individual case will present its own peculiar aspect. I can only say of this that the so called moral is generally more important than the medical treatment, and that as a rule change of scene and of all the surroundings benefit the insane.

The question of a removal to a hospital fairly comes in here. I do not hold that insane persons are to be taken indiscriminately to a hospital simply because they are insane; the question for the medical adviser in each case should be, can anything better be done for this man than to send him to the hospital? If not, urge upon his friends that it be done at once. The friends may not choose to take your advice, but if the insane man commits suicide or a homicide a few days later, they may come to respect your judgment and you would probably feel better about it than if your advice had been to keep him at home a while longer. But my impression is that the medical fraternity are not open to the charge of advising friends to keep insane patients away from the hospitals; I have sometimes feared the error might be the other way. It is often a doubtful question whether a delicate woman just confined and suffering from puerperal mania, should be removed at once, or whether the effort should not be made to provide for her for a few days at home. A large majority of the cases of puerperal mania recover if the physical system can be carried over the shock; hence, if a change involves removing in winter weather to any considerable distance, by open conveyance, it is very doubtful whether it is wise to attempt it. It is unpleasant to see a patient brought to a hospital in a moribund condition, though

it now and then occurs. Where there is hopeless pulmonary disease, even though a fatal termination is not immediately imminent, it is generally ill-advised to attempt a removal; it is better for all parties concerned to have them die at home.

Harmless imbecility often crowds our hospitals when it might be finding enjoyment elsewhere; that friends have become tired of taking care of them at home is certainly a poor excuse for advising their removal to a hospital. One of the saddest sights to me is that of a poor old mother in the last stages of senile dementia, whose life and mind and everything have gone out in the service of her children, who has slept in the same bed and sat in the same corner in peace for I know not how many years, too feeble to strike a blow if she was so disposed, with hardly mind enough to entertain a delusion, now suddenly found to be too dangerously insane to be cared for at home, and packed off to the hospital. It is generally her last ride, for the shock of the journey breaks up the softened brain tissues; she runs down rapidly; is dead within three months; the hospital has the credit of her decease, and the friends, "verily they have their reward."

One other point and I have done. It is always pleasant to know that a high estimate is put upon one's ability, but it sometimes becomes a little embarrassing. A patient is now and then brought to the hospital accompanied by some near relative, who narrates the past history of the case with painful minuteness of detail, the more so because you see that it is one of those hopeless cases from the start, where little by little the mind has fallen out until there is nothing left. The first glance at your patient confirms all that has been told; the life has withered up, the face has a vacant look, for the soul left it years ago, and you turn to the friend and say, "I suppose your doctor told you what you might expect in this case?" "Oh yes, he said he could not do any more for him, but if we should carry him to Taunton the doctors at the hospital could make him all right in a few weeks." I beg, gentlemen, as a special favor, that you will not so over-estimate our ability.

So, cursorily, I have gone over the subject, not hoping to exhaust it, for the study of insanity is as infinite as is the mind whose thick teeming fancies are disordered by it.

"To minister to a mind diseased"—it is a study worthy of our highest ambition. Can medicines restore the mind? No, but we may remove the exciting causes, build up the exhausted body, replace the iron in the blood, give sleep to the tired brain, patiently ministering and waiting till a hand greater than ours with a touch infinitely tender shall cast out the demon and bring back the man.

Taunton, March, 1872.

IN the New Haven *College Courant* we find the following:—

"Professor Rudolph Virchow, the eminent German physiologist, is a radical democrat in politics, and the only representative of that party in the Prussian Parliament of whom Bismarck said he was afraid."

Clinical Lecture.

ON FISTULA IN ANO.

By W. C. B. FIFIELD, M.D. Harv.

[Delivered at the Boston City Hospital, Nov. 30th, 1872.]

THE patient now on the table for operation is the subject of fistula in ano. He entered the hospital more than a week ago with an abscess at the right side of the anus, which was opened and a considerable quantity of pus discharged. The wound was probed, but was not found to communicate with the rectum. We said that the abscess was opened. Now there is a right way and a wrong way to open such an abscess, and it is important for you to know the right way as given by Mr. Allingham and others. It is this. Lay the patient on the side corresponding to the abscess. Make him draw his knees as closely to his face as he can. Then pass your forefinger of the left hand, well oiled, into the anus, and place the thumb of the same hand below or to one side of the abscess. Now you have it, so to speak, between finger and thumb. If the patient be unruly he can scarcely get away from you, for by strongly hooping your finger you can hold him even if he were inclined to career wildly about the room. Having caught your abscess how shall you open it? The right way would be to open it towards the anus, the wrong way towards the perineum or coccyx, for opened in this latter direction, it would not discharge so well from the more ready approximation of its walls. Now a few days after the first abscess was opened, a second formed on the opposite side, and was also opened. Hence you now see a wound on each side of the anus. Do both of these openings communicate with the bowel, or does one, or neither? We will see. I take this long, probe-pointed director, known as Brodie's, and pass it into the opening on the left side. I am careful to pass the probe-director before I pass in my finger, for that would make the sphincter contract and I might have more difficulty in finding the intestinal opening. Where shall I seek for that opening? Years ago it would have been sought for high up the bowel; but M. Ribeau showed that it is always or almost always just above the sphincter, sometimes a little higher, sometimes a little lower, but usually not more than an inch above the muscle. So it is here that I shall try for it. Whether the fistula be complete or of the blind external or blind internal variety, you can almost always feel above the muscle a spot harder than the surrounding tissues and withal a little depressed. I feel such a spot here, and steering the probe-director carefully, which the broad, flat handle helps me to do, for it does not roll like a common probe, it has passed into the rectum; and now I bring it out of the anus with the anterior wall of the fistula bridging it; and now I cut through it with the bistoury. I did not have to pull out a probe and substitute a director, only to push on the probe point and the channelled director followed it; thus time was saved. You see that the posterior wall of the sinus is hard, rugged, almost cartilaginous, and some operators like again to turn the edge of the knife to it and divide it down to the softer tissues beneath, thus making what the late Mr. Salmon, of London, called his "back cut."

This hard, rugged tissue is what old-fashioned people mean by the *pipe* of a fistula, and they believe that if this pipe be pulled out or destroyed the fistula will heal. Some surgeons (mostly empirics) who pretend to cure fistula without cutting, and make great use of caustics, without discrimination, say that they are able to do this, and clients flock to them, for people always prefer to be burnt rather than cut.

But let us examine the other opening ; the probe enters freely enough, but my finger does not detect any internal opening, neither does it feel any hardened or depressed spot, or the probe lying close under the mucous membrane. Nevertheless an opening may exist, so we will try an hydraulic probe. A liquid will find its way along narrow and tortuous ways that a solid probe, however flexible, cannot. If, with a probe, you cannot make out the internal opening of a fistula, you may proceed in this way. Take a rectal speculum, from which, after introduction, one side can be removed, the best one is known as Hilton's, and passing it into the rectum remove the slide. Now fill a small syringe, having a long nozzle, with clear water, or milk, pass the end of the syringe into the fistula and slowly inject, turning the speculum from time to time until you have made it traverse the entire circle of the rectum. If there be an internal opening communicating with the outer, the liquid will surely find it out, and then you can carry your probe there too. If you have not a Hilton's speculum, you may make use of a method that I am about to use. Fill the syringe with tinct. of iodine, pass your finger into the rectum and inject ; if there be an internal orifice your finger will be stained by the iodine. You see that my finger is *not* stained, hence I conclude that an internal opening does not exist. From what we have seen of this case, it seems reasonable to believe, from the rugged base of the sinus, &c., that the wound we laid open into the rectum was the original fistula, and that the second sinus is only an off-shoot from it, which we may expect to heal of itself after the division of the sphincter that we have made. Even had we found an internal opening of the second sinus, I should have been loth to have cut the muscle again, for when the sphincter has been divided a second time at a first operation, the wounds have been found either to heal very imperfectly, or not at all.

Another little point to which I will call your attention. Whilst trying to find if any internal opening of the second sinus existed, I found a large artery running just above the muscle. If this be found in a case where you are about to operate, you may make use of this little instrument, a sort of tourniquet, that I found in use at St. Mark's Hospital, in London. It consists of a canula with a female screw thread cut on the inside, a second canula with a male screw cut on the outside ; this last canula terminates at its lower end, with a disk across the face of which a transverse bar is soldered. The male canula is screwed home into the female canula and the instrument is ready for use. Now take a leaden, silver or other wire, or even a silk or twine string, pass one end of it through the sinus into the rectum, and bring it out at the anus. Now pass both ends through the canula and make them fast to the transverse bar ; by unscrewing the inner canula the ligature is tightened, and the instrument is left hanging at the anus. By unscrewing a little, daily, the ligature is made tighter and cuts through in about three days.

We will now dress the wound. I pack the cut fistula with fine jeweller's cotton, *not* oiling it, for by so doing I should defeat my object, which is to check any bleeding, and to set up a little inflammation. It will remain untouched for three days at least, leaving it to be thrown out by the first motion of the bowels, which I shall take care may not happen before that time. After this, I shall not dress the wound at all, merely keeping it clean, perhaps cutting away some overhanging edges or stimulating the granulations if they be too indolent. In fact, the truth about fistulae after operation is that the more carefully and often you dress them the more they refuse to get well. John Hunter, I think it was, who has left us a most precious legacy in these words, "Do not dress the sore too curiously."

There are fistulae which may be spoken of under the head of fistula in ano, although, whether they communicate with the rectum or not, they have really nothing to do with what is commonly understood by fistula in ano. Clearly to understand about these, we shall have to go over the anatomy of the perineum. You all know about the famous deep layer of the superficial perineal fascia. Now, passing in front of the perineal muscles, it turns under the transversus perinei and becomes attached to the deep perineal fascia or triangular ligament. If you hold a pocket pistol by the muzzle, the butt pointing downwards, you will gain a good idea of this curving fascia. By its junction with the triangular ligament it makes a closed pocket, or *cul de sac*, the bottom of which is at this junction, the top almost anywhere upwards, at the clavicles if you like, but at present we will limit it at the scrotum. The French call this pocket, which contains the *erectores* and *acceleratores* muscles, urethral bulb, &c., "logé périnéale inférieure." The triangular ligament, or deep perineal fascia, is a ligamentous sheet that shuts off and defends the cavity of the pelvis. It is attached above, by its apex, to the symphysis pubis, on each side to the rami of the ischia and pubes. It occupies a space bounded in the same manner above and laterally, below by the transversus perinei. Below the transversus, you remember, are the levatores ani and the ischio-rectal spaces filled with fat. The ligament is composed of two layers, an anterior and posterior, and between the two are contained Cowper's glands, Wilson and Guthrie's muscles, membranous portion of the urethra, bloodvessels, &c. "The anterior layer, where it is perforated by the membranous portion of the urethra, is continuous with the fibrous cover of the bulb and corpus spongiosum urethrae, so that the fascia does not present a defined edge to the tube which passes through it." (Quain's Anatomy.) Abraham Colles, in his *Surgical Anatomy*, published in 1831, thus writes: "The bulb of the urethra does not lie loose and unconnected on the surface of the ligament. On the contrary, you find it to be fixed in this place, and connected with the anterior surface of this ligament by an attachment of almost ligamentous nature, so that even the largest and most posterior portion of the bulb, although it pass backward toward the anus, cannot be said to lie loose and pendulous in the perineum." I love to hear or see the name of Abraham Colles. If you have not, I would strongly advise your reading his *Surgical Lectures* and his *Surgical Anatomy*. The posterior layer of the deep fascia is not, I think, well understood, and anatomists of the same and those of different nations disagree about it. Some consider that the anterior layer of the deep fascia is really

the only true triangular ligament, the posterior layer being only the continuation of the pelvic fascia. Let us hear Abraham Colles again: "On the pelvic surface of this ligament, i. e. the triangular, we cannot without further dissection discover the aperture for transmitting the membranous part of the urethra. In fact, this ligament does not merely present itself as a partition placed in the angle of the pubes, separating the pelvis from the perineum and transmitting the membranous part of the urethra through a distinct opening. On the contrary, we remark that this ligament is continued backward along the sides of the membranous part of the urethra and prostate; that it adheres very closely to the surface of this gland, and, consequently, that it serves so to connect these parts to the *os pubis*, that they *must* follow the motions of these bones." Now here we see the truth of what Mr. Hilton told us years ago, that when a man falls or jumps from a great height, alights on his feet and then falls, he at once experiences pain at the pubes, and going to make water finds blood on his shirt, or having passed water if he can, finds the chamber pot full of bloody urine. He has fractured the pubic portion of his pelvis. The membranous urethra must follow the motions of the bones and are thus torn and lacerated. Now let us see whether this posterior layer of the triangular ligament is really only the pelvic fascia or not. Abraham Colles says: "Observe the extent of this fascia; it is seen to line the walls of the pelvis from the sacro-sciatic notch to the edge of the symphysis pubis. It descends from the ilio-pectineal line to about midway in the depth of the pelvis; here it is reflected from the surface of the muscles and applies itself to the prostate gland and bladder, on the body of which it is lost. At the angle of its reflection, this fascia appears particularly strong and white, but becomes more weak and thin as it lines the muscles and covers the bladder. This fascia fixes itself into the edge of each *os pubis*, on the side of the symphysis, and at a very little height above the lower edge of these bones. This attachment is made by a pointed production of the fascia inserting itself into the bone; and these productions of the fascia, from their form and greater thickness, have obtained the name of the anterior ligaments of the bladder. So completely does this fascia connect the bladder to the walls of the pelvis, that it is not interrupted in the interval between the anterior ligaments. For here we see this fascia passing so far forwards under the symphysis pubis as to form a small recess or pouch capable of receiving the end of the little finger. Now, as this production of the fascia advances so far forwards under the symphysis pubis, it must approach close to the pubic ligament. (Mr. Colles does not here mean by pubic ligament what we understand by that name, but the upper part of the triangular ligament where it is attached to the symphysis pubis.) We shall find, however, that it is separated from it by the interposition of some veins," and he might have added, some cellular tissue. The two layers of the triangular ligament unite below the membranous part of the urethra and join the anal fascia. M. Denonvilliers describes another fascia, the prostatoo-peritoneal, which, uniting itself to the posterior layer of the triangular ligament, rises upward from the base fond of the bladder to the inferior face of the peritoneum at the recto-vesical *cul de sac*, which it helps to form by drawing and holding down the serous membrane. Thus we see that the two layers of the triangular ligament, united above and below,

separated in the middle, form another pocket or *cul de sac*, "logé périnéale supérieure," holding the membranous part of the urethra, Cowper's glands, Wilson and Guthrie's muscles, &c.

Now to apply all this to fistula in the neighborhood of the anus. M. Richet says:—"In regard to the abscesses that arise in the 'logé périnéale supérieure,' they originate almost always from an inflammation of the prostate, the anterior layer of the triangular ligament opposing an insurmountable barrier, so that they can neither go downwards or forwards. Hence they have no possible escape, except through the posterior layer or by the prostato-peritoneal fascia, or by entering the urethra. Superiorly, the pelvic fascia, very dense, opposes a long resistance. Nevertheless, it can make a route through and invade the sub-peritoneal tissues of the pelvis. Backwards, it would find the prostato-peritoneal fascia of Monsieur Denonvilliers impassable, upwards near the vesiculæ seminales, but insufficient below, where, as I have said, it is reduced to some cellular adherences. Thus hard pressed, one frequently sees the pus glide in front of the rectum, and, following the inclined plane of the anterior layer of the triangular ligament, invade the ischio-rectal fossa, appear upon the sides of the anus, and sometimes open into the rectum.

Now these fistulae are often mistaken for fistulæ in ano, and are treated like them, to the destruction of the patient. They are to be distinguished by a history of previous stricture of the urethra, or of gonorrhœa, &c.; often by finding an escape of urine as well as pus; by the fistula forming nearer the anterior segment of the anus than rectal fistulæ usually do, sometimes appearing, by a long subcutaneous sinus, far forward in the perineum, along which a probe goes back to, or even into the anus. As a rule, you should be very slow to operate by cutting on fistulæ in this situation, until you are sure that they are not of this sort. Speaking of fistulae and their causes, Mr. Hilton says, that "the causes may be divided into constitutional and local; of the local, a communication with the urethra may be mentioned amongst one of the first. This is a complication of the greatest importance to investigate and make out, previous to the performance of an operation. Many cases have come under my notice in which the operation for fistula in ano has failed for want of this precaution being duly attended to. One case came under my care in which a communication of this sort existed—the result of an ulceration in the urethra behind a stricture. The complication had not been suspected, and the perineum had been divided into the rectum so as to lay open the fistulous track; the consequence was that no union followed, and the patient never retained his feces afterwards, but by passing a catheter and keeping one constantly in the bladder, the opening in the urethra was closed, and the patient so far recovered. Another case occurred to me last May, where the fistulous opening communicated both with the urethra and rectum. Having made this out, I declined performing any operation, but recommended that he should keep on his back, and that a catheter should be kept constantly in the bladder." Personally, from what I have seen of such cases, if a catheter cannot be regularly passed by the patient every time he desires to micturate, I believe that I would recommend the performance of the lateral operation for lithotomy, as is done in ruptured bladder, and keep the opening patent with a tube long enough to allow the sinus to close.

progress in Medicine.

REPORT ON PHYSIOLOGY.

By H. P. BOWDITCH, M.D. HARV.

In presenting the first of a series of reports on the progress of physiology, it seems desirable to indicate briefly the object which will be had in view, as well as the plan to be followed in their preparation.

The necessary limits of time and space will of course render it impossible to give a complete *résumé* of all the work done each year in a science so extensively cultivated as Physiology. Nor is it necessary to do so, for the voluminous annual reports published in Germany* are so complete as to leave nothing to be desired in this direction. These reports give short notices of all the physiological work published during the year in all the languages of Europe, and are invaluable for any one who desires to ascertain the present state of knowledge in regard to any particular point in physiology.

Instead of attempting any such exhaustive treatment of the subject, a certain number of special questions will be selected to be discussed, somewhat critically, in the light thrown upon them by recent investigations. Each report will, therefore, be an attempt to present in a concise form the results arrived at in several of the most important departments of physiology. It is hoped that this course will be in accordance with the best interests of the readers of the JOURNAL.

ABSORPTION OF ALBUMENOID SUBSTANCES.

BRÜCKE.—Beiträge z. Lehre v. d. Verdanung. Wiener Sitzungsberichte, Bd. 37, 1859. Über d. Peptontheorien u. d. Auf. sangung d. eiweissartigen Substanzen. Wiener Sitzungsberichte, Bd. 59, 1869.

DIACONOW.—Über d. Verdanung d. Eiweissstoffes in künstl. Magen. u. Pankreassaft. Med.-Chem. Untersuchungen von Hoppe Seyler. Heft. ii., 1867.

VÖLT UND BAUER.—Über d. Aufsangung im Diets. und dünndarm. Zeitschrift für Biologie, Bd. 5, S. 536.

FICK.—Über die Schieksall d. Peptone im Blute. Pflüger's Archiv, v. 40.

EICHHORST.—Über die Resorption d. Albuminate im Dietsdarm. Pflüger's Archiv, iv. 571.

Since the discovery of the power of the gastric juice to convert albumenoid substances into so-called peptones, a form in which they are much more diffusible than the albumens from which they are derived, it has been assumed by nearly all physiologists that a change of this sort is a necessary preliminary to absorption, and that unchanged coagulable albumen cannot pass the mucous membrane of the alimentary canal. Prof. Brücke, of Vienna, however, very early called attention to the length of time necessary for the conversion of albu-

* Bericht über die Fortschritte der Anatomie und Physiologie von Henle, Meissner und Grenacher in Göttingen.

Jahresbericht über die Leistungen und Fortschritte in der Anatomie und Physiologie von Rud. Virchow und Aug. Hirsch, unter special-redaction von Dr. E. Gurit und Dr. A. Hirsch.

minoid substances into peptones, and expressed the opinion that food does not stay long enough in the stomach for the conversion of more than a very small portion of the albumens contained in it. Moreover, the presence of coagulable albumen in the small intestine may be demonstrated. Brücke also alludes to the existence in the pancreatic juice of an albuminoid substance, coagulable by heat, which plays an important part in emulsifying fats. It can scarcely be supposed that the channels which are wide enough to allow the passage of fat drops are impervious to albuminous molecules which serve to emulsify the fat; and if the albumen of the pancreatic juice can be absorbed, there is no reason why the albumen of the food should not be absorbed also.

Diagonow calls attention to the small amount of peptones found in the blood and the intestines, and considers that physiologists are not justified in assuming them to be the only albuminoid substances which are in a form to be appropriated by the organism.

That coagulable albumen can really pass through an animal membrane is sufficiently proved by the occurrence of albuminuria after the injection of white of egg into the veins, the difference between albumen and peptones in regard to diffusibility being one of degree only.

The experiments of Voit and Bauer, and of Eichhorst, consisted in the injection of various albuminoid substances into the rectum of dogs, and determining the amount of nitrogen excreted in the urine and faeces. For this purpose the animals were, in Voit's experiments, kept for several days entirely without food, until the daily elimination of nitrogen had become constant. In Eichhorst's experiments, they were fed on non-nitrogenous food till the same result was obtained. An injection of an albuminoid substance was then made, and any increase in the elimination of nitrogen was considered a proof that absorption through the large intestine had taken place. In order to exclude the hypothesis that anything like digestion could take place in the rectum, the fluids of the large and small intestine were carefully tested in regard to their action on albuminoid substances, and were found to possess no digestive power whatever. The experiments showed that the following substances were absorbed through the mucous membrane of the large intestine: juices of meat, milk, solution of myosin, white of egg mixed with salt, solution of gelatine and Liebig's meat extract. On the other hand, simple white of egg, solution of syntokin and blood serum were not thus absorbed. The juice of meat was found to be quite as easily absorbed as peptones, which is an additional proof that no digestion occurs in the large intestine.

Relying upon these experiments, Voit expresses the opinion that only the albumen, which is absorbed unchanged, is used for the repair of organs and tissues, and that the peptones which are absorbed are probably rapidly decomposed. Otherwise we must suppose that the peptones derived from the albumens of the food are converted, after absorption, into the albumens of the body, a process not in accordance with the economy of force which we see usually manifested by Nature.

Fick adopts the same view, and supports it by the following experiment. Albumens and peptones are injected into the jugular vein of rabbits whose kidneys have been extirpated, and at different intervals the blood is examined for urea. The injection of albumens is not fol-

lowed by any important increase of urea in the blood, while the peptones cause a very marked increase, which is proportional to the time elapsing between the injection and the examination of the blood.

NUTRITIVE ENEMATA.

LEUBE.—Ueber die Ernährung der Kranken vom Mastdarm aus. Deut. Arch. für Klin. Med. Bd. x. S. 1-54.

LEUBE.—Ueber die Anwendung des Pancreas-glycerinextractes zur Ernährung der Kranken vom Mastdarm aus.

The experiments described above prove the possibility of nourishing the body by nutritive enemata even when no digestion can be supposed to take place in the rectum. The results will, of course, be much more certain when such a digestion does occur, and this Leube proposes to effect by mixing with the enemata a small amount of the glycerine extract of the pancreas prepared according to the method of von Wittich (*Pflüger's Archiv*, ii. 193). The glycerine extract of the gastric mucous membrane would probably be quite as effective.

DIGESTION OF STARCHY SUBSTANCES.

MEYER.—Ernährungsversuche mit Brod am Hund und Menschen. Zeitschrift für Biologie, vii. p. 1.

SONSINO.—On the Physiological Dyspepsia for starchy Food in Infancy. Practitioner, li. 155.

SCHENK.—Über die Vertheilung des Klebers in Weizenkorne Anatomische Untersuchungen, Wien, 1872.

The relative nutritive value of bread of different sorts has been investigated experimentally by Meyer. The experiments were made on a young man of strong and healthy constitution, and the bread used was of four different sorts.

I. Rye bread (without bran) prepared by the Horsford-Liebig process.

II. Munich rye bread made from bolted rye meal, with the addition of coarse wheat flour, raised with leaven.

III. White wheat bread raised with yeast.

IV. North German black bread (Pumpernickel), made from coarse, unbolted rye meal, raised with leaven.

Each sort of bread was used as food for four consecutive days, being, with the exception of a daily allowance of 50 grammes of butter and two litres of beer, the only food taken during that time.

Between each series of days, thus devoted to experiment, several days or weeks intervened, during which the individual regulated his diet according to his inclinations.

The solid constituents, the nitrogen and the mineral substances, were determined quantitatively for each sort of bread. A similar analysis of the faeces gave the means of determining what proportion of each of these substances was absorbed. The following table gives for each of the four sorts of bread the amount of these substances which appeared in the faeces for every 100 parts swallowed:

Bread.	Solid constituents.	Nitrogen.	Mineral substances.
I.	11.5	32.4	38.1
II.	10.1	22.2	30.5
III.	5.6	19.9	30.2
IV.	19.3	42.3	96.6

It appears, then, that the bread which furnishes the greatest amount of nutritive materials in a condition to be absorbed is that made of fine wheat flour, and that which furnishes the least is that made of coarse, unbolted rye meal. This result is in direct contradiction to the prevailing views as to the nutritive value of unbolted flour. These views are based partly upon the fact that the feeling of hunger is relieved for a longer time by bran bread than by bread made of fine white flour. The greater and more prolonged distention of the stomach by the former in consequence of its comparative indigestibility is probably the explanation of this feeling. For not only must bran bread be swallowed in greater quantity than white bread in order to obtain an equal amount of nutriment, but it will also remain longer in the stomach because it is less easily acted upon by the digestive fluids.

The superiority of bran bread, as a means of nourishment, was also apparently demonstrated by the experiments of Magendie, who found that a dog fed on white wheat bread died of starvation in fifty days, while another dog fed on black bran bread lived for a long time. In the absence, however, of any statement as to the absolute amount of bread swallowed, this experiment is of no value, for it is quite possible that owing to the less agreeable taste of the white bread the animal did not swallow enough to sustain life.

Besides establishing the nutritive inferiority of bran bread, the experiments of Meyer prove, also, that the large amount of mineral substances present in bread made by the Horsford-Liebig process does not cause the absorption of any greater amount of nutriment. In this respect the previous experiments of Bischoff and Hofmann are confirmed.

The observations of Schenk, on the distribution of gluten in wheat, threw some additional light on the question of the nutritive value of bran. It was observed that, when a transverse section of a kernel of wheat was heated with Millon's reagent, the color characteristic of the presence of albuminoid substances appeared over the whole surface, except in the layer of granular cells, commonly known as gluten cells, lying immediately under the cellulose envelope. Now, since no albuminoid substance is known which is not colored by Millon's reagent, and since gluten obtained from flour shows the characteristic color, it is evident that the so-called gluten cells must be really destitute of gluten. The same result was obtained by subjecting the sections of wheat to the action of a digestive fluid. Here the so-called gluten cells were entirely unaffected, while the starch granules in the interior of the kernel were set free by the solution of the albuminoid framework about them. Although the gluten cells themselves seem to contain no albuminoid substance as tested by Millon's reagent, yet in the central portion of the kernel the albuminoid substances increase from within outwards so that it is still possible that the removal of the bran may involve the loss of some of the most nutritive portions of the flour. It is also probable that the gluten cells, though containing no albuminoid substance, yet really do contain some indigestible nitrogenous material. This would explain the large amount of nitrogen found in bran. This view is also supported by an experiment of Poggiale,* who found that bran passed successively twice through

the intestines of a dog and once through that of a cock still contained 3.5 per cent. of nitrogenous substances.

In view of these facts, it is impossible to look upon *all* the nitrogen found in the faeces after a diet of bran bread as derived from digestible albuminoid substances, though, undoubtedly, much of it has this origin, the nutritious substances being carried through the alimentary too rapidly to be wholly digested and absorbed.

Sonsino calls attention to the fact that in an infant the alimentary canal resembles anatomically that of a carnivorous animal, this structure being in accordance with the character of the food on which it lives. Thus the mouth is adapted only for suction and not for mastication. The lips, tongue, pharynx, uvula and soft palate are well developed, while the jaws are small and without teeth till a later period than in any other mammal. The stomach is small and tubular, lying more parallel to the trunk than in adults, the pancreas slightly developed and the small intestine short. These are all indications that the food will stay only a short time in the alimentary canal, and therefore animal rather than vegetable food should be given. The presence of starch being the principal characteristic of vegetable food, it might naturally be supposed that starch would not be well digested by infants. This view is confirmed by the observations of Guillot, who found in the autopsy of infants a jelly-like substance in the intestines, giving a starch reaction with iodine. Bidder and Schmidt found that the saliva of young animals, man included, has little or no power to change starch into sugar. Schiff confirmed their observations and placed the first appearance of the sugar ferment of the saliva at the period of the first dentition.

Sonsino's experiments showed that an infusion of the pancreas of young cats, dogs and rabbits, has no sugar ferment, though in adult animals the action is very marked. He concludes that "in the early life of man, probably till the beginning of dentition, infants offer a true physiological dyspepsia for starchy aliments, caused by the inactivity of one at least—probably of all—of the humors that concur in the digestion of those aliments."

Hence rice, arrowroot, tapioca, &c. are unsuitable articles of food for infants unless mixed with some substance capable of acting as a sugar ferment. For this purpose the author suggests the use of the glycerine extract of bullock's pancreas.

It is interesting in this connection to notice the custom, said to prevail amongst the peasant women in certain parts of Southern Europe, of moistening the pap in their own mouths before giving it to their children, thus by their own saliva effecting a chemical change which that of their infants would be powerless to produce.

Sonsino concludes with some remarks upon the inability of starchy food to furnish materials for building up the tissues of the body, which is, of course, a very important process in growing children.

ORIGIN OF ANIMAL FAT.

SUBBOTIN.—Beiträge zur Physiologie des Fettgewebes. Zeitschrift für Biologie, vi. p. 78.

HOFMANN.—Der Uebergang von Nahrungsfett in die Zellen des Thierkörpers. Zeitschrift für Biologie, vii. p. 153.

TOLDT.—Beiträge zur Histologie und Physiologie des Fettgewebes. Wiener Sitzungsberichte, Bd. lxii., 1870.

RADZIEJEWSKI.—Experimentelle Beiträge zur Fettresorption. *Virchow's Archiv*, Bd. 43, p. 268.

VORR.—Ueber die Fettbildung im Thierkörper. *Zeitschrift für Biologie*, Bd. v. p. 79.

The question of the origin of animal fat is of great importance as bearing upon the practical problems of increasing by suitable diet the amount of adipose tissue in the body, as in the case of convalescents, and of diminishing the amount of the same tissue in the cases of obesity.

The fact that fat may arise as a product of decomposition of albumenoid substances, has been proved in many ways, but never more satisfactorily than by the following experiments of Hofmann on maggots. The amount of fat contained in the eggs of flies was determined by an analysis of a given number of them. Other eggs were allowed to hatch and develop, the maggots being fed on defibrinated blood. The full-grown maggots were then analyzed, and found to contain about ten times as much fat as the eggs and the food together. The possibility that fat may arise in this way, led to the theory that all the fat in the cells of the body is derived from the decomposition of albumenoid substances in the cells themselves, the nitrogenous products of decomposition passing out by digestion, while the fats remain behind, until, by further decomposition, they assume more soluble forms. On this theory, the fat of the food contributes only indirectly to the deposition of fat in the body by protecting the fat which arises from the albumenoid substances from farther decomposition, and, since the blood never contains any great amount of fat, the fat of the food must be used up as fast as absorbed. This theory is held by Subbotin, who supports it by the following experiments.

I. A dog received daily for a month a certain amount of spermaceti with his food, and an examination of the feces showed that during the month he must have absorbed at least 100 grammes of that substance. An examination of the tissues showed only a very small amount of spermaceti in the omentum and mesentery, and none at all in the subcutaneous adipose tissue. Subbotin concludes, therefore, that the fat of the body is derived only in a very slight degree from the fat of the food.

II. Enaciated dogs were fattened on food from which one of the normal constituents of animal fat, viz. stearine, had been extracted. The fat in the body, however, contained a normal amount of stearine. This, Subbotin concludes, must have been formed by the decomposition of albumenoid substances.

Similar views are held by Toldt.

According to theory of Radziejewski, fats arise synthetically in the cells, from the soaps formed in the intestine by means of the pancreatic juice and the bile salts acting on the fat of the food. His experiments, however, scarcely sustain his conclusions, and need not therefore be mentioned.

Hofmann denies the force of Subbotin's experiments with spermaceti, because this is a fat abnormal to the body of the animal experimented on, and offers the following experiment to prove that the normal fats of the food may be absorbed as such from the intestines and deposited directly in the tissues.

A dog was kept without food till a sudden increase in the daily ex-

cretion of urea was observed. This, according to the researches of Voit, is an indication that all the fat of the body has been used up. The animal was then fed for five days with large quantities of fat and a small amount of fresh meat. An analysis of the faeces during these five days showed how much of these substances had been absorbed. At the end of the five days the dog was killed, and the total amount of fat contained in the body determined. This fat must have been derived from the decomposition of the albuminoid substances or directly from the fat of the food. The amount of fat which could have arisen from the decomposition of albuminoid materials was calculated on the assumption of Henneberg that 100 grains of dry albumen give rise to 51.4 grains of fat. The following table gives the result of the experiment.

	In five days.
	Grammes.
Fat absorbed as food	1854.0
" arising from albumen	130.7
" supplied to the body	1984.7
" found in the body	1352.7
" decomposed	632.0

It will be seen that the amount of fat found in the body was ten times as great as could be accounted for, even on the supposition that all the albumens of the food had been changed into fat, proving that the fat of the food must have been deposited directly in the tissues, notwithstanding the difficulty of supposing fat drops to pass through moist animal membranes.

Voit has shown, in experiments made first in 1862, that a dog fed entirely on lean meat excretes in urea all the nitrogen of the meat, but that a portion of the carbon remains behind in the body. This can best be accounted for on the supposition that fat is formed by the decomposition of albumen, and is stored up as such in the body.

In the present state of the question, the most reasonable conclusion seems to be that the fat of the animal body may be, and probably is, formed both from the albuminoid and fatty substances in the food. Whether starchy and saccharine substances can give rise to fats is still an open question.

[To be concluded.]

Reports of Medical Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. F. B. GREENOUGH, M.D., SEC.

Nov. 25th.—*Malignant Sarcoma of Cutis, Vertebral Column, Rib, Lungs, Liver, Pancreas, Kidneys, Heart and Dura Mater.* Dr. WEBBER reported the case (which had been under Dr. Lyman's care) and showed the specimen.

Peter W., aged 40, bookbinder, was sent to Dr. Lyman by his employer, Nov. 5th, suffering from dyspnoea and pain through left side, shoulder and arm. His father died of tumor of stomach, since ascertained to have been cancer. Had rheumatic fever sixteen years ago, after which his health was good till five years ago, when a tumor appeared

in the right axilla, which was removed in 1869. It soon re-appeared, and, in August, 1871, it was removed at the Massachusetts General Hospital. Six months since, small tumors began to appear over the body, of which there are at present a large number, varying in size from a pea to a pigeon's egg, resembling somewhat sebaceous cysts, some in the skin, others deeper seated; three of the subcutaneous ones are dark, grumous and bloody. Large nodular mass over seventh right rib, outside of angle. Has severe paroxysms of cough morning and evening, with little or no expectoration. Complains of lancinating, burning pain in left side, shoulder and arm, with severe exacerbations several times during the day. Cardiac region and arm feeling sore and burning like fire. No pain elsewhere. Able to move about. Pulse 104. Appetite good. Bowels constipated. Respiration short, and much impeded on least exertion. Dry musical râles throughout both lungs.

Eight years since had urethritis, the discharge continuing five or six months. No sore or swelling of glands in groin.

Children healthy, with no evidence of venereal taint.

Urine—specific gravity 1020; nothing abnormal except crystals of oxalate of lime.

Admitted to City Hospital Nov. 8th.

Nov. 9th.—The disease until now has been considered to be malignant. On consultation, gummosus tumor was suggested.

17th.—The original diagnosis was again adopted.

20th.—Pain in chest and arm much aggravated, and respiration more labored, causing great suffering. Objects to food; thinks it increases the dyspnoea.

21st.—Called for a glass of water, and on the return of the attendant had ceased to breathe.

Post mortem, by Dr. Webber.—Extensive adhesions in each pleura, mostly in front. Pericardium adherent, but easily separated. A large mass was found at the apex of left pleural cavity, attached to vertebral column, and several smaller masses attached to bodies of vertebrae. On one of the ribs, a small tumor, which had destroyed the bone. Liver, lungs, pancreas, kidneys and substance of heart studded with nodules, and upon the under surface of the dura mater, near the vertex and to right of median line, was attached a similar mass, size of a penny.

Microscope shows the disease to have been malignant sarcoma.

Dr. WHITE spoke of a case of primary sarcoma of the skin over the groin, which had been examined by Dr. FITZ, and found to be undoubtedly sarcomatous.

Dr. LYMAN said that the case had been a very interesting one with regard to the diagnosis, and asked Dr. FITZ what he had found microscopically.

Dr. FITZ stated that the results of his microscopical examinations agreed essentially with those of Dr. Webber, and that there could be no mistake as to the character of the growth. He would add that the resemblance between the large spindle cells of the tumor and those of involuntary muscular tissue was very striking; the same was true with regard to the fasciculated arrangement. He had also examined the tumor referred to by Dr. WHITE, and found a similar structure, the cells being smaller, however, the nuclei broader and less elongated.

In Dr. Lyman's case, the rapid and extensive generalization after the second operation was of interest, a period of comparative immunity, except locally, existing between the two operations.

In the second case, where the tumor was apparently primary on the skin, the disease was most extensive in the deeper layers of the corium; hair follicles, sweat-glands and adipose tissue, still to be recognized, though the two latter were undergoing atrophy.

The papillary layer directly over the nodules was atrophied, the growth making its way into the individual papillæ. Accessory nodules, few in number, were apparent, also a limited, diffuse infiltration of the corium.

In answer to a question by Dr. Damon, he said that there were, undoubtedly, cases where a differential diagnosis between sarcoma and gumma was extremely difficult, perhaps impossible, as in certain forms of cerebral tumors. In this case, however, the spindle-cell formation was so prominent, the individual elements so large and free from degeneration, this notwithstanding the size of the nodules, and the structure of the growths was so complete, highly organized, if the term might be used, that a reasonable doubt could hardly be entertained. Characteristic of growing gummatous tumors was the peripheral layer of granulation tissue, rapidly terminating in fatty degeneration centrally, indicative of an extremely transitory existence of the individual elements.

With regard to the gross appearance of certain of the cutaneous tumors, there were undoubtedly some which bore a marked resemblance to gummatous nodules. But in the older tumors, elevated above the surface, some actually fungoid, dense, and hard, there was no evidence of breaking down. Where the skin was giving way, it did so from above, the epithelium exfoliating and leaving a delicate, smooth, shining, translucent pellicle, of bluish-red color, covering the tumor.

Dr. BLAKE exhibited a specimen of a Politzer's eyelet which had come away under peculiar circumstances three months after its insertion in the membrana tympani. Politzer's operation for insertion of the eyelet consists in making a straight incision through the membrana tympani in the posterior inferior segment, then dilating this by means of a sea-tangle tent, a process which occupies from ten to fifteen minutes and is very painful, and on removal of the tent inserting the eyelet by means of forceps constructed for the purpose. As a modification of this operation, instead of one cut, two cuts are made in the posterior inferior segment of the flap with its apex upwards; this flap is then pushed inwards by means of a probe and the eyelet introduced immediately upon the flap. The tendency of the flap to spring outwards presses the eyelet firmly upwards against the free edges of the incision, and holds it in position until intention has taken place. The operation requires but a comparatively short time, and the danger of the passage of the eyelet into the cavity of the tympanum is diminished as the tendency of the flap is always to press it outwards. Whatever may be the method of introduction, the limit of permanency of the eyelet seldom exceeds three months, at the end of that time it generally comes away and another must be introduced. Recent experience shows, however, that the third and fourth operations are seldom called for, as the hearing after the coming away of the second

or third eyelet is sufficiently good; this is especially noticeable in cases of very considerable thickening and rigidity of the membrana tympani. The specimen exhibited was a good instance of the tendency to repair as shown in the membrana tympani, cicatricial tissue having extended from the edges of the cuts a distance of from two to three m.m. inwards over the eyelet and completely occluding the inner end of the eye.

This operation is indicated when the labyrinth is intact, but the membrana tympani is so thickened as not to transmit sonorous vibrations.

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, JANUARY 16, 1873.

THE indications of energetic action on the part of Mayor Pierce are encouraging. His letter to the physicians in regard to the smallpox hospital shows an inclination to be guided by good medical authority, a marked contrast to the policy of the late administration. We are sorry to hear that the Board of Aldermen have not adopted his suggestion in regard to the Roxbury Almshouse. It is well known that the danger of communicating the disease from a smallpox hospital to its neighborhood is imaginary, and we regret to see that the policy which led the old Board of Health to abandon the Albany Street hospital is still influencing the minds of the majority of the present board of aldermen. We confess to a feeling of disappointment at the announcement of the nominations for the new board handed in last week. The selection of more prominent men would seem to be highly desirable for the success of the board, particularly at the outset of its career. We presume, however, it was difficult to find such men who were willing to accept the positions with the present salary and conditions.

THE accounts of the last illness of Napoleon, and the bulletins issued by his medical attendants, are vague and conflicting. We presume that lithotripsy had been performed and the operation repeated after a short interval, with a fatal result, the exact nature of which we have not learned from any reliable source. There are rumors of death from chloroform, which have not yet been confirmed. If this report proves to be true, it will be interesting to read the comments of the English medical press.

THE FOLLOWING PROPOSITIONS are offered as matters of belief, and some of them as matters of record:—

1st. Without vaccination, one death in ten would be the result of smallpox.

2d. Without vaccination, nineteen out of twenty would have smallpox.

3d. Without vaccination, sixty-seven per cent. of the cases of smallpox would be fatal.

4th. With vaccination, not two per cent. of the inhabitants will take smallpox.

5th. With vaccination, the percentage of deaths from smallpox is only about eight of the two per cent. who will take it.

6th. A larger percentage of those who have had smallpox will have the secondary disease than of those who have been vaccinated. That is to say, vaccinia is a better prevention of varioloid than smallpox is.

7th. Humanized virus is more likely to take than the original virus from the cow.

8th. Humanized virus, whether it takes or not, does not produce such severe constitutional symptoms as primary cow virus does.

9th. It is not proved that either humanized virus or primary cow virus is the better in its protective effects.

10th. There are certain individuals who do not seem susceptible of variola.

11th. There are certain individuals who do not seem susceptible of vaccination.

12th. The taking of smallpox after vaccination is no proof that a second vaccination would have succeeded.

13th. A successful re-vaccination is no proof that the individual re-vaccinated would have taken smallpox.

FIG LEAVES.—According to the *Lancet*, there may be observed in the Indian collection at the International Exhibition, in a case of personal ornaments placed against the wall near the south-eastern angle of the court, a pair of silver leaves exactly copied from the oval leaves of the Indian fig tree. In the same and in other cases will be found a variety of metal ornaments of the conventional heart shape, and others of the ecclesiastical piscina, attached to some form of cincture or girdle. All these variations of the leaf-form are used by the Hindoo girls to cover the vulva, and not seldom as their sole article of attire; while the heart and piscina forms are merely conventional copies of the original. This relation between the conventional heart shape and the female sexual organs possibly explains the first use of the former as a symbol of love; and it may also be assumed that the piscina was a heathen emblem, a relic of the phallic worship of some far-back Aryan stock, before it was adopted as a Christian one. The young ladies who purchase valentines, and the architects who copy mediæval decorations, have been about equally ignorant of the meaning of the forms they have assisted to perpetuate.

The modern jewelry collection contains also objects of sanitary interest, in the shape of the thumb rings, furnished with mirrors, which are worn by Hindoo women. These rings are used for the examination of the genitals, in order to be sure that they are cleansed effectually.

Medical Miscellany.

THE BOARD OF TRIAL of the Massachusetts Medical Society met in this city, yesterday, Jan. 15th, pursuant to adjournment, and pending the decision of the Supreme Court with regard to the injunction served upon their proceedings, adjourned to April 29th. There is reason to believe that the decision of the Supreme Court will shortly be rendered.

THE INTRODUCTORY LECTURE at the beginning of the term of the Medical School of Maine was delivered by Dr. Thomas Dwight, on the 9th inst. The subject was the Progress of Anatomy and the Anatomy of Progress.

PROF. GAETANO VALERJ, M.D., of Rome (Hon. Member of the Massachusetts Medical Society), has been made a "cavaliere" of the Crown of Italy for his distinguished services in the University at Rome.

THE SMALLPOX.—The report of the city physician of Boston for the three months ending Dec. 31st ult. will show that 1793 cases of smallpox have been reported in that time. The number of deaths by the disease was 523; and the number of patients in the city and at the island at this date is estimated to be 650. The ratio of deaths to cases reported has been a trifle above one in three.

COLLODION IN HERPES ZOSTER.—Dr. W. M. Carpenter recommends in the *Medical Record* the use of collodion, applied to the vesicles, for the relief of the intense, burning, superficial pain of this affection.

BONE-SETTING EXTRAORDINARY.—The marriage of the Emperor of China has been described by a contemporary with a minuteness that is either highly creditable to the imagination of the correspondent or else is a convincing proof that the Celestials have overcome the objections they once entertained to allowing foreign barbarians to penetrate to the customs of Chinese domestic life. In the story there is one painful episode of a hunch-backed girl who was among the forty or fifty first selected candidates. The Emperor had dreamed that he was to marry a hunch-back, and medical men were consulted in regard to the possibility of curing the deformity. "After some vain efforts, it is said that a farrier, a very strong man, tried by force alone to push in the hump, and that it ended in the death of the poor girl." This must have been a bolder stroke in the way of bone setting than any that English members of the craft have even attempted to achieve, and it is manifestly to be wished that Chinese farriers could be taught something of the way in which "cure by movement" may be effected.

SENNA-COFFEE.—It may not be generally known that the disagreeable taste of infusion of senna may be completely removed by the addition of coffee in its preparation.

For a full dose, take a teacupful (say 1 oz.) of senna leaves, a heaped teaspoonful (say 2 drachms) of freshly parched and ground coffee, and boiling water a sufficient quantity to make a teacupful (say four fluid ounces) of infusion—steep till of sufficient strength.

To the infusion thus prepared, add milk and sugar to taste. The drink will be quite acceptable to adults, and not disagreeable to children.

THE IMPERIAL CALCULUS.—What historian of France will undertake to determine how important an influence the calculus in Napoleon's bladder exerted in the downfall of Napoleon's dynasty—to what extent the pain and annoyance and anxiety, caused by that stony interloper, distracted the imperial attention from the "one idea" and intruded themselves into national affairs?

FRACTURE OF THE TRACHEA.—Dr. Drummond, of Oldham, England, reports the case in the *British Medical Journal*. A middle-aged woman, while hanging out some clothes, slipped off the chair on which she was standing and fell forward against its back, from which the top rail was missing. She fell forcibly and struck the trachea against a sharp, upright spindle. The cartilaginous rings were crushed; there was slight expectoration and extreme general emphysema. A compress of cotton wool was retained over the part by adhesive plaster, and she made a good recovery in ten days.

A REMARKABLE CASE—A YOUNG MAN WITHOUT ANY LIVER, STOMACH, AND OTHER ESSENTIALS (from the *Pottstown, Pa. Ledger*).—“A very unusual and wonderful phenomenon was found within the body of William Millaur, of Cedarville, North Coventry township, Chester County, who died on Monday morning, Dec. 9. The deceased has been afflicted for several years with curvature of the spine, enlarged spleen and liver. Ascites, or abdominal dropsy, set in about eight months ago, as the result of the enlargement of the liver and spleen interfering with the proper functions of the body, gradually increasing until his death.

“The case was under charge of several physicians of this vicinity, since he was first afflicted. Dr. J. Davis, who has been his attending physician for several months past, performed a post-mortem examination on Wednesday last, in the presence of several persons, and, strange to relate, after having drawn about eight gallons of dark-colored serous fluid from the abdomen, found that the liver, spleen, kidneys, stomach and bowels were completely absorbed, without leaving any portion of them remaining—nothing being found in the abdomen but a portion of the omentum and the serous fluid. How long this had been the case we are unable to say, but certainly it could not have been long.”—*Med. Times*.

BOOKS RECEIVED.—*Pharmacopoeia of the United States. Fifth Decennial Revision.* Philadelphia: J. B. Lippincott & Co. Pp. 383. (From the Publishers.)

PAMPHLETS RECEIVED.—*Rhode Island Nineteenth Registration Report for 1871.* By Edward T. Caswell, M.D. Providence, R. I. 1872. Pp. 116.—*Seventeenth Annual Report of the Trustees of the State Lunatic Hospital at Northampton.* October, 1872. Boston. 1873. Pp. 138.

MARRIED.—At Meriden, N. H., Jan. 7th, Assistant Surgeon F. Le Baron Munroe, U. S. Army, to Tamson, daughter of Mr. I. I. Barrows, of Meriden.

MORTALITY IN MASSACHUSETTS.—*Deaths in fifteen Cities and Towns for the week ending January 4, 1873.*

Boston, 204—Charlestown, 18—Worcester, 24—Lowell, 9—Milford, 6—Chelsea, 11—Salem, 7—Springfield, 6—Lynn, 12—Gloucester, 3—Fitchburg, 5—Taunton, 6—Newburyport, 5—Somerville, 8—Haverhill, 5. Total, 329.

Prevalent Diseases.—Smallpox, 70—consumption, 68—pneumonia, 19—scarlet fever, 15—typhoid fever, 12.

The deaths from smallpox were as follows: In Boston sixty, Charlestown five, Salem two, Chelsea two and Worcester one.

GEORGE D. RBY, M.D.,

Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, January 11th, 1873. Males, 110; females, 97. Accident, 4—abscess, 1—apoplexy, 3—aneurism, 1—asphyxia, 1—asthma, 1—inflammation of the bowels, 1—bronchitis, 5—inflammation of the brain, 2—congestion of the brain, 3—disease of brain, 6—cancer, 5—cyanosis, 2—consumption, 32—convulsions, 4—croup, 2—debility, 3—diarrhea, 1—dropsy, 1—dropsy of brain, 1—diphtheria, 1—erysipelas, 1—scarlet fever, 8—typhoid fever, 2—gangrene, 1—gastritis, 1—disease of heart, 3—intemperance, 1—disease of kidneys, 3—disease of the liver, 2—congestion of the lungs, 1—disease of the lungs, 11—marasmus, 3—old age, 5—paralysis, 7—premature birth, 5—puerperal disease, 2—parotitis, 1—pyæmia, 2—rheumatism, 1—smallpox, 66—malignant disease of stomach, 1—spina bifida, 1—tonsillitis, 1—teething, 1—ulcers, 2—unknown, 4.

Under 5 years of age, 58—between 5 and 20 years, 24—between 20 and 40 years, 74—between 40 and 60 years, 29—over 60 years, 22. Born in the United States, 116—Ireland, 57—other places, 34.